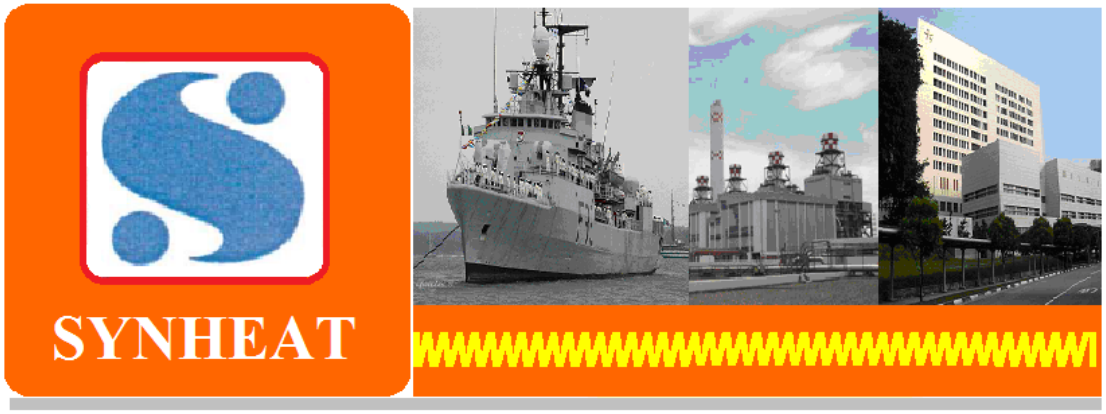
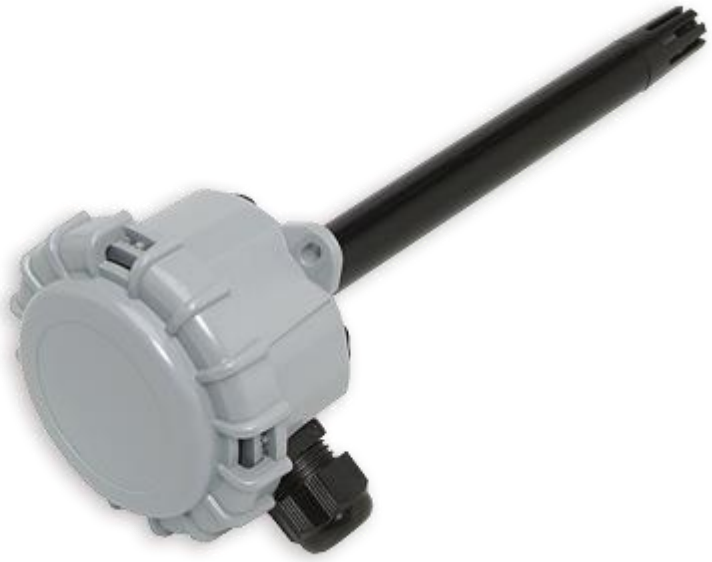


Manufacturer of Electric Heating Elements and Controls

RH & T Sensors & Humidistats

RH-DT
Duct Mount RH & T Sensors



- Description

RH-DT Duct Mount RH & T Sensors

The RH-DT Duct Mounted Humidity and Temperature Sensors offer the latest technology for high accuracy RH measurement. Units can be ordered with an optional direct resistive temperature output (where this option is required, the type of temperature element MUST be specified at the time of ordering). The RH-DT01 is also available with additional outputs for enthalpy and dewpoint (RH-DT01-EN). Non-standard temperature output ranges can be specified at time of order.

Features

- High stability and reliability
- Built-in circuitry diagnostics
- ±2% and ±3% Accuracy versions
- 4-20mA or 0-10Vdc outputs (link selectable)
- Direct thermistor temperature options available

Specification

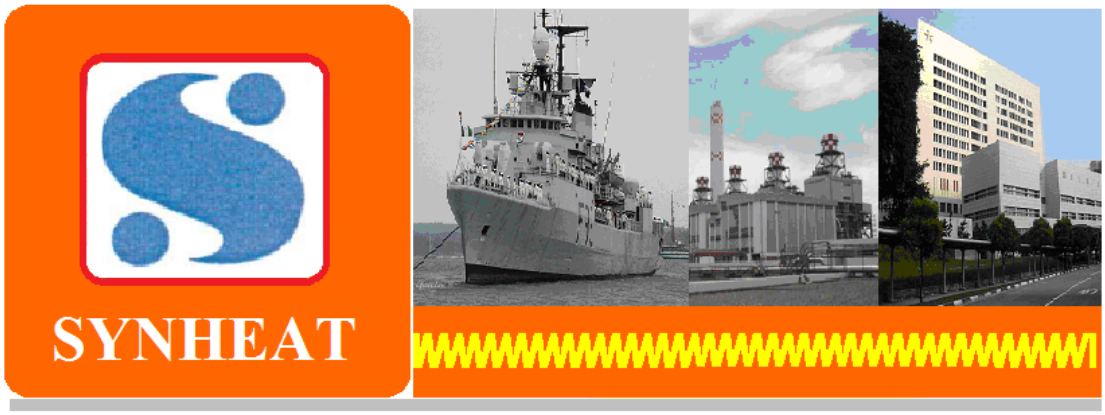
RH accuracy:	**RH-DT01** ±2% (10 to 90%RH)
	RH-DT02 ±3% (20 to 80%RH)
Temp. accuracy:	±0.3°C
RH element long term stability:	<0.5% RH p.a.
Ambient range:	–10 to +50°C
Power supply:	4-20mA 20-35Vdc for 500Ω loop resistance
	0-10Vdc 17 to 34Vdc, 14 to 26Vac (4.7kΩ min.)
Output:	Standard 4-20mA or 0-10Vdc RH & temperature
Output ranges:	**Humidity** 0 to 100%
	Temperature –20 to +50°C as standard,others available on request
Protection:	IP65
Dimensions:	**Housing** 57 x 90mm diameter
	Probe 210 x 19mm diameter
Weight:	220g

Technical Overview

The RH-DT duct mounted humidity & temperature sensors offer the latest technology for high accuracy RH measurement. Units can be ordered with an optional direct resistive temperature output (where this option is required, the type of temperature element MUST be specified at the time of ordering). The RH-DT01 is also available with additional outputs for enthalpy and dewpoint (RH-DT01-EN). Nonstandard temperature output ranges can be specified at time of order.

Installation

1. Antistatic precautions must be observed when handling these sensors. The PCB contains circuitry that can be damaged by static discharge. Transmitters should only be fitted to a system after airflow calibration has been carried out and preferably following full fan running of at least several days, in order that the main contaminants have been removed from the stagnant system.
2. Select a location in the duct where dust & contaminants are at a minimum (i.e. after filters etc.) and which will give a representative sample of the prevailing air condition.
3. If the sensor is to be mounted outside, it is recommended that the unit be mounted with the cable entry at the bottom. If the cable is fed from above then into the cable gland at the bottom, it is recommended that a rain loop be placed in the cable before entry into the sensor.
4. Drill two holes at 85mm centres, fix the IP65 housing to the duct with appropriate screws. Making sure to align the holes in the probe so they point into the air flow. The housing is designed to make it easy for an electric screwdriver to be used if desired.
5. Remove the front cover by twisting the lid and separating from the main body.
6. Feed the cable through the waterproof gland and terminate the cores at the terminal block. Leaving some slack inside the unit, tighten the cable gland onto the cable to ensure water tightness.
7. Replace the lid after the electrical connections have been made.



Manufacturer of Electric Heating Elements and Controls

RH & T Sensors & Humidistats

RH-OS
Outside RH & T Sensors

- Description

RH-OS Outside RH & T Sensors

The RH-OS Outside Mounted Humidity and Temperature Sensors offer the latest technology for high accuracy RH measurement. Units can be ordered with an optional direct resistive temperature output (where this option is required, the type of temperature element MUST be specified at the time of ordering). The RH-OS01 is also available with additional outputs for enthalpy and dewpoint (RH-OS01-EN). Non-standard temperature output ranges can be specified at time of order.

Features

- Radiation shield
- High stability and reliability
- Built-in circuitry diagnostics
- ±2% and ±3% Accuracy versions
- 4-20mA or 0-10Vdc outputs (link selectable)
- Direct thermistor temperature options available

Specification

RH accuracy:	**RH-OS01** ±2% (10 to 90%RH)
	RH-OS02 ±3% (20 to 80%RH)
Temp. accuracy:	±0.3°C
RH element long term stability:	< 0.5% RH p.a.
Ambient range:	–10 to +50°C
Power supply:	**4-20mA** 20-35Vdc for 500Ω loop resistance
Output:	**0-10Vdc** 17 to 34Vdc, 14 to 26Vac (4.7kΩ min.)
	Standard 4-20mA or 0-10Vdc RH & temperature
Output ranges:	**Humidity** 0 to 100%
	Temperature –20 to +50°C as standard, others available on request
Protection:	IP65
Dimensions:	**Housing** 57 x 90mm diameter
	Shield 200 x 118mm diameter
Weight:	1.14kg

Technical Overview

The RH-OS outside mounted humidity & temperature sensors offer the latest technology for high accuracy RH measurement.

The sensor is supplied with a radiation shield, this provides the necessary protection of solar radiation and precipitation. Units can be ordered with an optional direct resistive temperature output (where this option is required, the type of temperature element MUST be specified at the time of ordering). The RH-OS01 is also available with additional outputs for enthalpy and dewpoint (RH-OS01-EN). Non-standard temperature output ranges can be specified at time of order.

Installation

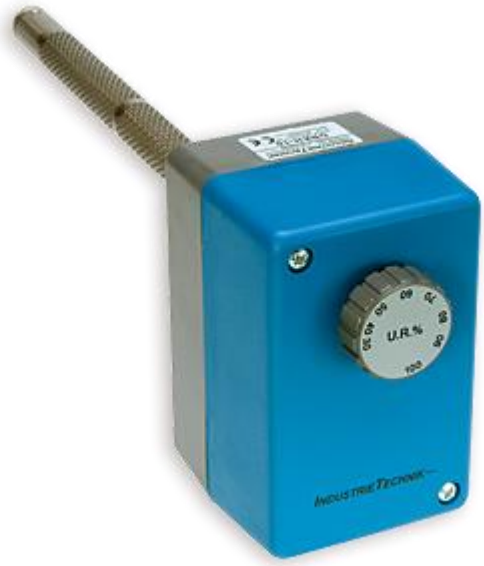
1. Fix the radiation shield to a suitable mast using the U bolts supplied.
2. When mounting the sensor outside it is recommended that a rain loop be placed in the cable before entry into the sensor.
3. Remove the front cover by twisting the lid and separating from the main body.
4. Feed the cable through the waterproof gland and terminate the cores at the terminal block. Leaving some slack inside the unit, tighten the cable gland onto the cable to ensure water tightness.
5. Replace the lid after the electrical connections have been made.
6. Ensure that the supply voltage is within the specified tolerances.
7. Allow 3 minutes before checking functionality.
8. Allow 30 minutes before carrying out pre-commissioning checks. Note Standard units are factory set for 4-20mA outputs.

SYNHEAT

Manufacturer of Electric Heating Elements and Controls

RH & T Sensors & Humidistats

RH-SH-xD
Duct Humidistats



- Description

RH-SH-xD Duct Humidistats

RH-SH Humidistats are designed for the on/off control of humidification and dehumidification equipment, or the initiation of alarms or override controls. High quality sensing elements ensure accurate measurement and switching differential.

Features

- Suitable for swimming pool applications

Specification

Case construction:	ABS
Operating range:	30-100% RH
Differential (per stage):	4% RH
Stage differential:	2 to 15% RH
Switch rating:	Duct 15(8)A @ 240Vac Room 5(0.2)A @ 250Vac
Cable entry:	20mm gland PG11 thread (not supplied)
Protection:	**RH-SH-xD** IP65
	RH-SH-1DE IP20
Dimensions:	**Housing** 108 x 72 x 72mm
	Probe 19mm dia. x 225mm long
Weight:	300g

Technical Overview

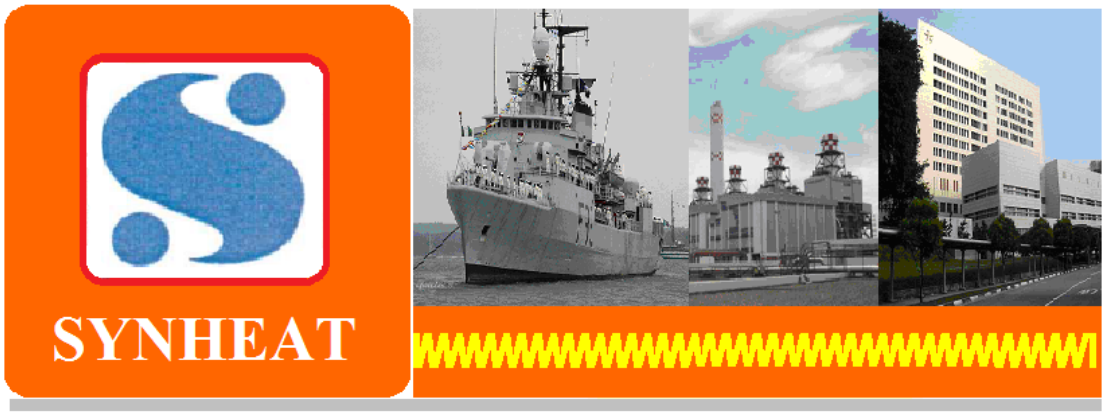
The RH-SD-1D range of humidistat's are designed for duct mounting for the ON/OFF control of humidification and dehumidification equipment, or the initiation of alarms or override controls. High quality sensing elements ensure accurate measurement and switching differential.

Installation

1. The RH-SH-1D should only be installed by a competent, suitably trained technician, experienced in installation with hazardous voltages. (>50Vac & <1000Vac or >75Vdc & 1500Vdc)
2. Ensure that all power is disconnected before carrying out any work on the RH-SH-1D.
3. Select a location in the duct where dust & contaminants are at a minimum (i.e. after filters etc.) and which will give a representative sample of the prevailing air condition.
4. If the sensor is to be mounted outside, it is recommended that the unit be mounted with the cable entry at the bottom. If the cable is fed from above then into the cable gland at the bottom, it is recommended that a rain loop be placed in the cable before entry into the sensor.
5. Remove the front cover, and separate from the main body.
6. Feed the cable through the waterproof gland and terminate the cores at the terminal block. Leaving some slack inside the unit, tighten the cable gland onto the cable to ensure watertightness.
7. Replace the lid after the electrical connections have been made.

Warning

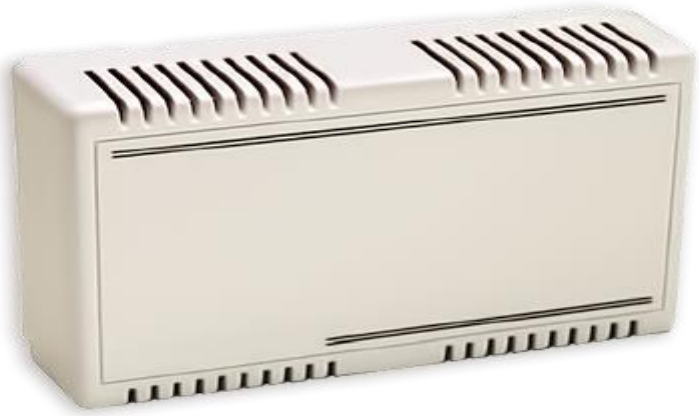
The measurement location of the humidity controller should be selected so that no water can condense on or in the device. This applies particularly for operation with voltage higher than 48V. Failure to comply with this can result in damage to the controller.



Manufacturer of Electric Heating Elements and Controls

RH & T Sensors & Humidistats

RH-SH-xR
Room Humidistats



- Description

RH-SH-xR Room Humidistats

RH-SH Humidistats are designed for the on/off control of humidification and dehumidification equipment, or the initiation of alarms or override controls. High quality sensing elements ensure accurate measurement and switching differential.

Features

- Single or 2-stage versions available

Specification

Case construction:	ABS
Operating range:	30-100% RH
Differential (per stage):	4% RH
Stage differential:	2 to 15% RH
Switch rating:	Duct 15(8)A @ 240Vac Room 5(0.2)A @ 250Vac

Cable entry:	20mm gland PG11 thread (not supplied)
Protection:	IP20
Dimensions:	**Housing** 115 x 35 x 70mm
Weight:	300g

Technical Overview

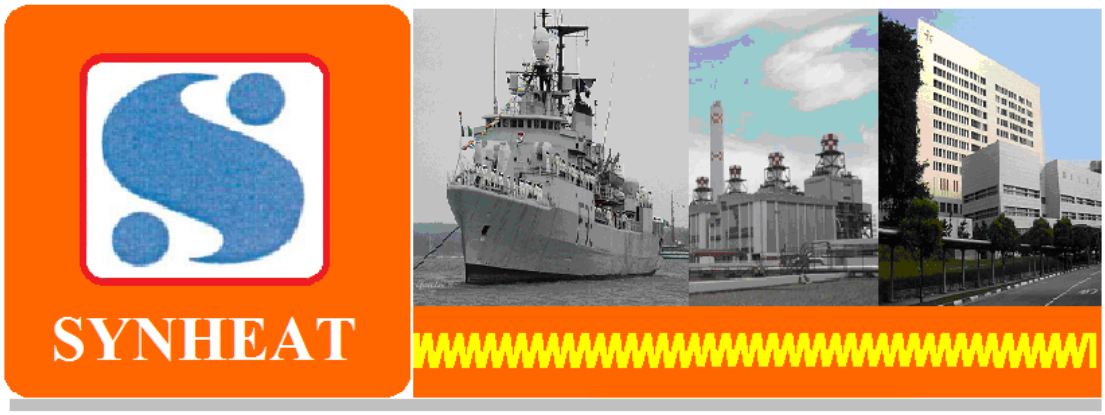
The RH-SH-xR range of humidistat's are designed for wall mounting for the ON/OFF control of humidification and dehumidification equipment, or the initiation of alarms or override controls. High quality sensing elements ensure accurate measurement and switching differential.

Installation

1. The RH-SH-xR should only be installed by a competent, suitably trained technician, experienced in installation with hazardous voltages. (>50Vac & <1000Vac or >75Vdc & 1500Vdc)
2. Ensure that all power is disconnected before carrying out any work on the RH-SH-xR.
3. Select a location in the occupied space where contaminants are at a minimum, and which will give a representative sample of the prevailing condition.
4. Undo the tamperproof screw at the bottom of the housing and gently pull the front panel from the base.
5. Using the base as a template mark the hole centres and fix to the wall with suitable screws.
6. Feed cable through the knockout in the base of the housing and terminate the cores at the terminal block, leaving some slack inside the unit.
7. Replace the housing to the base plate, and fit the tamperproof screw at the bottom of the base plate.

Warning

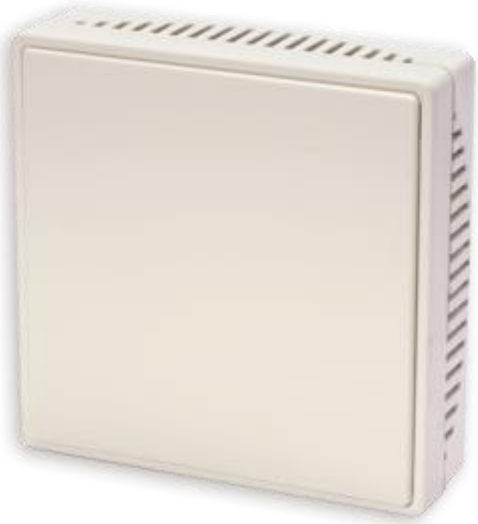
The measurement location of the humidity controller should be selected so that no water can condense on or in the device. This applies particularly for operation with voltage higher than 48V. Failure to comply with this can result in damage to the controller.



Manufacturer of Electric Heating Elements and Controls

RH & T Sensors & Humidistats

RH-SP
Space Mount RH & T Sensors



- Description

RH-SP Space Mount RH & T Sensors

The RH-SP Space Mounted Humidity and Temperature Sensors offer the latest technology for high accuracy RH measurement. Units can be ordered with an optional integral LCD display for temperature and RH. The RH-SP01 is also available with additional outputs for enthalpy and dewpoint (RH-SP01-EN). Non-standard temperature output ranges can be specified at time of order.

Features

- High stability and reliability
- Two part terminals for ease of connection
- Built-in circuitry diagnostics
- Three line fully configurable LCD display option

Specification

RH accuracy:	**RH-SP01** ±2% (10 to 90%RH)
	RH-SP02 ±3% (20 to 80%RH)
Temp. accuracy:	±0.3°C
RH element long term stability:	< 0.5% RH p.a.
Ambient range:	–10 to +50°C
Power supply:	**4-20mA** 20-35Vdc for 500Ω loop resistance
Output:	**0-10Vdc** 17 to 34Vdc, 14 to 26Vac (4.7kΩ min.)
	Standard 4-20mA or 0-10Vdc RH & temperature
Output ranges:	**Humidity** 0 to 100%
	Temperature 0 to 40°C as standard, others available on request
Protection:	IP20
Dimensions:	85 x 85 x 27mm
Weight:	100g

Technical Overview

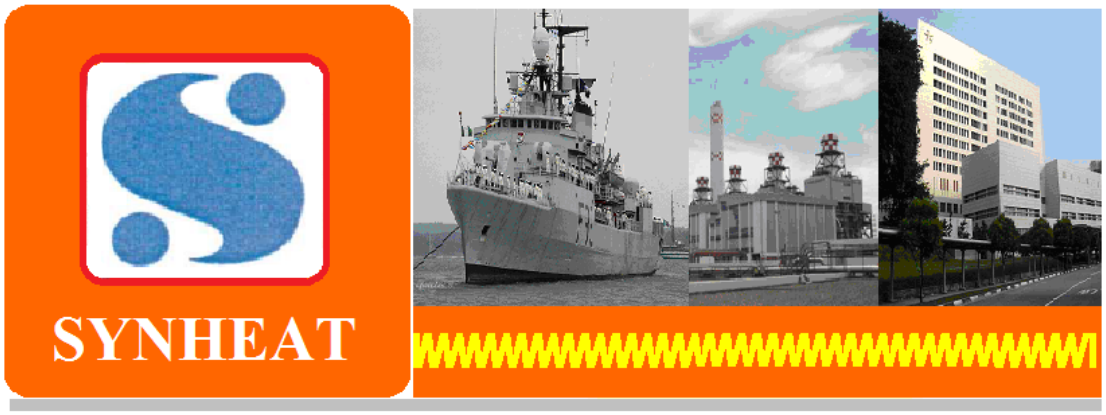
The RH-SP space mounted humidity & temperature sensors offer the latest technology for high accuracy RH measurement. The RH-SP01 is also available with additional outputs for enthalpy and dewpoint (RH-SP01-EN). Non-standard temperature output ranges can be specified at time of order.

Installation

Antistatic precautions must be observed when handling these sensors. The PCB contains circuitry that can be damaged by static discharge.

1. Select a location on a wall of the controlled space which will give a representative sample of the prevailing room condition. Avoid sitting the sensor in direct sunlight.
2. Undo the tamperproof screw at the bottom of the housing and gently pull the front panel from the base.
3. Using the base as a template mark the hole centres and fix to the wall using suitable screws. Alternatively the base plate can be mounted onto a conduit box or a standard recess back box.
4. Feed the cable through the 22mm knockout in the housing base and terminate as required. 5. Set jumpers as required .
5. Leaving some slack inside the housing replace the front panel to the base plate.
6. Fit the tamperproof screw (if required) through the lug at the bottom of the base plate.
7. Ensure that the supply voltage is within the specified tolerances.
8. Allow 3 minutes before checking functionality. 10. Allow 30 minutes before carrying out pre-commissioning checks.

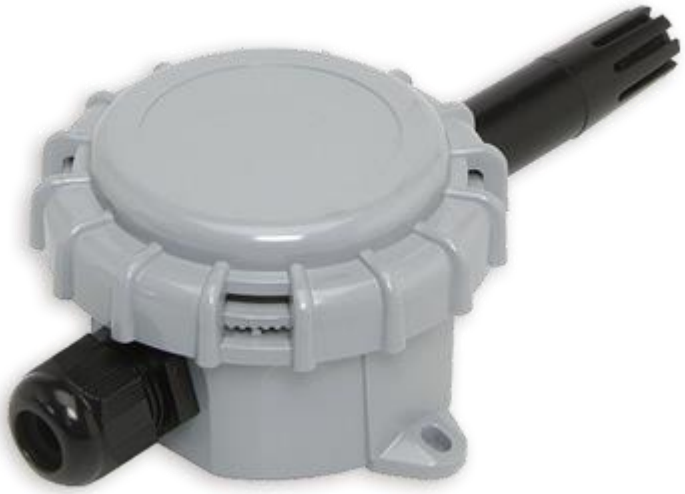
Note: Standard units are factory set for 4-20mA outputs.



Manufacturer of Electric Heating Elements and Controls

RH & T Sensors & Humidistats

RH-WL
Wall Mount RH & T Sensors



- Description

RH-WL Wall Mount RH & T Sensors

The RH-WL Wall Mounted Humidity and Temperature Sensors offer the latest technology for high accuracy RH measurement. Units can be ordered with an optional direct resistive temperature output (where this option is required, the type of temperature element MUST be specified at the time of ordering). The RH-WL01 is also available with additional outputs for enthalpy and dewpoint (RH-WL01-EN). Non-standard temperature output ranges can be specified at time of order.

Features

- High stability and reliability
- Built-in circuitry diagnostics
- ±2% and ±3% Accuracy versions
- 4-20mA or 0-10Vdc outputs (link selectable)
- Direct thermistor temperature options available

Specification

RH accuracy:	**RH-WL01** ±2% (10 to 90%RH)
	RH-WL02 ±3% (20 to 80%RH)
Temp. accuracy:	±0.3°C
RH element long term stability:	< 0.5% RH p.a.
Ambient range:	–10 to +50°C
Power supply:	**4-20mA** 20-35Vdc for 500Ω loop resistance
Output:	**0-10Vdc** 17 to 34Vdc, 14 to 26Vac (4.7kΩ min.)
	Standard 4-20mA or 0-10Vdc RH & temperature
Output ranges:	**Humidity** 0 to 100%
	Temperature –20 to +50°C as standard, others available on request
Protection:	IP54
Dimensions:	**Housing** 57 x 90mm diameter
	Probe 90 x 19mm diameter
Weight:	180g

Technical Overview

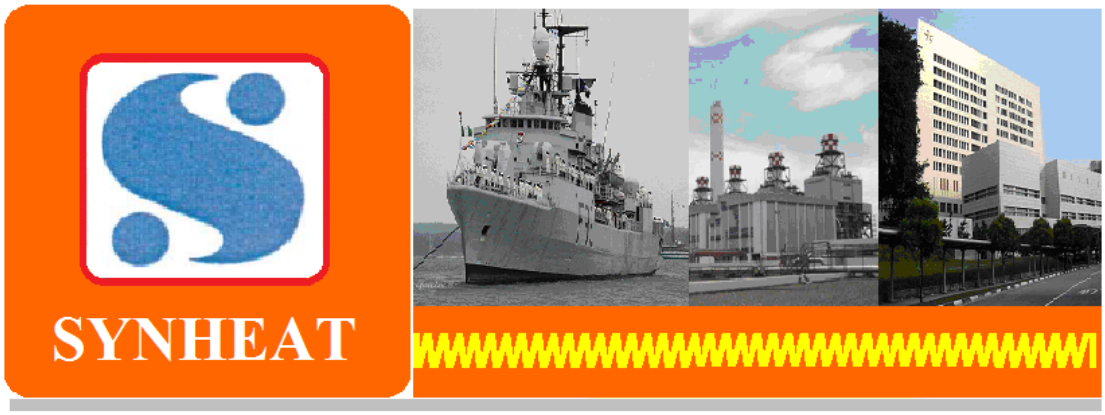
The RH-WL wall mounted humidity & temperature sensors offer the latest technology for high accuracy RH measurement. Units can be ordered with an optional direct resistive temperature output (where this option is required, the type of temperature element MUST be specified at the time of ordering). The RH-WL01 is also available with additional outputs for enthalpy and dewpoint (RH-WL01-EN). Nonstandard temperature output ranges can be specified at time of order.

Installation

Antistatic precautions must be observed when handling these sensors. The PCB contains circuitry that can be damaged by static discharge.

1. Select a location in the occupied space, or externally where contaminants are at a minimum, and which will give a representative sample of the prevailing room condition.
2. If the sensor is to be mounted outside, it is recommended that the unit be mounted with the cable entry at the bottom. If the cable is fed from above then into the cable gland at the bottom, it is recommended that a rain loop be placed in the cable before entry into the sensor.
3. Drill two holes at 85mm centres, fix the IP65 housing to the wall with appropriate screws. The housing is designed to make it easy for an electric screwdriver to be used if desired.
4. Remove the front cover by twisting the lid and separating from the main body.
5. Feed the cable through the waterproof gland and terminate the cores at the terminal block. Leaving some slack inside the unit, tighten the cable gland onto the cable to ensure water tightness.
6. Replace the lid after the electrical connections have been made.
7. Ensure that the supply voltage is within the specified tolerances.
8. Allow 3 minutes before checking functionality.
9. Allow 30 minutes before carrying out pre-commissioning checks.

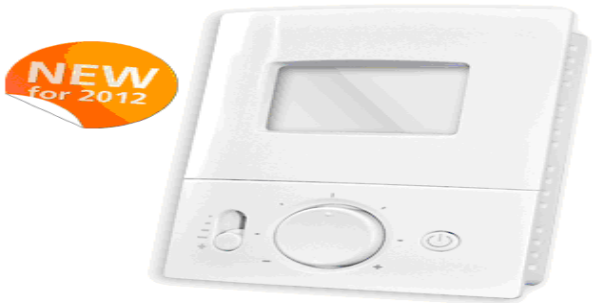
Note: Standard units are factory set for 4-20Ma



Manufacturer of Electric Heating Elements and Controls

RH & T Sensors & Humidistats

RH-1000
Space RH & T - New Space Housing



- Description

RH-1000 Space RH & T - New Space Housing

Completely revised for the new 1000 series space housing, and using the latest high accuracy RH & T element, the new RH-1000 offers new options such as setpoint adjustment, momentary switch and fan speed selection, together with a multi-line backlit LCD display. A 0-10Vdc override status input option is also available, allowing occupancy indication on the display. 0-10Vdc or 4-20mA (loop or externally powered) outputs for temperature and RH are available as standard, with optional 0-5Vdc. A custom output range for temperature can be requested, between 0°C and +50°C. A directly connected passive thermistor temperature output is also available, as an alternative to the standard active temperature output.

Features

- Designed to be aesthetically pleasing
- Blends into the fabric of any building
- Developed using customer feedback and involvement

Specification

Active Outputs:	**Voltage** 0-10Vdc @ 4k7Ω min, 0-5Vdc @ 4k7Ω min (optional) **Current** 4-20mA @ 250Ω min

Optional Passive Outputs:	**Thermistor** Any thermistor type*
	Setpoint 2-wire 1kΩ to 11kΩ, linear
	Override VFC
	Fan Speed 3 position Resistive, 5 position Resistive
Output Ranges:	**RH** 0-100%
	Temperature 0°C to +40°C as standard
	(others available on request: Range of 0°C and +50°C)
Power Supply:	0-10Vdc 12 - 26Vac or 16 - 26Vdc @ 60mA max
	4-20mA 20 - 26Vdc only @ 70mA max
	4-20mA 20 - 26Vdc only @ 70mA max
Temp. Accuracies:	±0.5°C (between +20°C and +40°C)
Ambient:	**Temperature** 0°C to 50°C
	RH 0 to 95% RH, non-condensing
Housing material:	ABS (flame retardant)
Dimensions:	115 x 85 x 28mm
Weight:	180g

Technical Overview

The RH-1000 uses the latest high accuracy RH & T element, and offers options such as set point adjust, momentary switch and fan speed selection, together with a multi-line backlit LCD display. A 0-10Vdc override status input option is also available, allowing occupancy indication on the display. 0-10Vdc or 4-20mA (loop or externally powered) outputs for temperature and RH are available as standard, with optional 0-5Vdc. A custom output range for temperature can be requested, between 0°C and +50°C. A directly connected passive thermistor temperature output is also available, as an alternative to the standard active temperature output.

Installation

1. Select a location on a wall of the controlled space which will give a representative sample of the prevailing room condition. Avoid sitting the sensor in direct sunlight, on an outside wall or near heat sources. An idea mounting height is 1.5m from the floor.
2. Undo the tamperproof screw at the bottom of the housing.
3. To remove the front panel from the base, twist a screwdriver as below and pull gently the front panel from the base.
4. Using the base as a template mark the hole centres and fix to the wall with suitable screws. Alternatively the base plate can be mounted on to a conduit box or standard recessed back box. The base plate is suitable for EU & North America fixings.
5. Feed cable through the hole in the base plate of the housing and terminate the cores at the terminal block as required. Leaving some slack inside the unit.
6. Replace the housing to the base plate.
7. Fit the tamperproof screw (if required) through the lug at the bottom of the base plate.